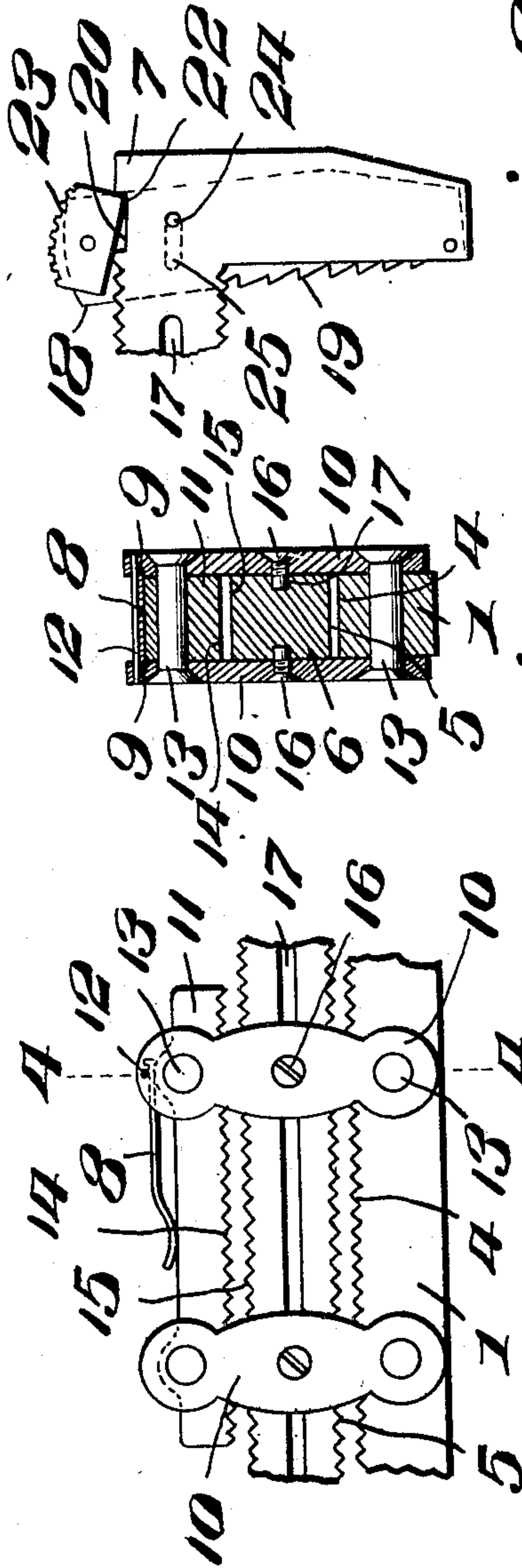
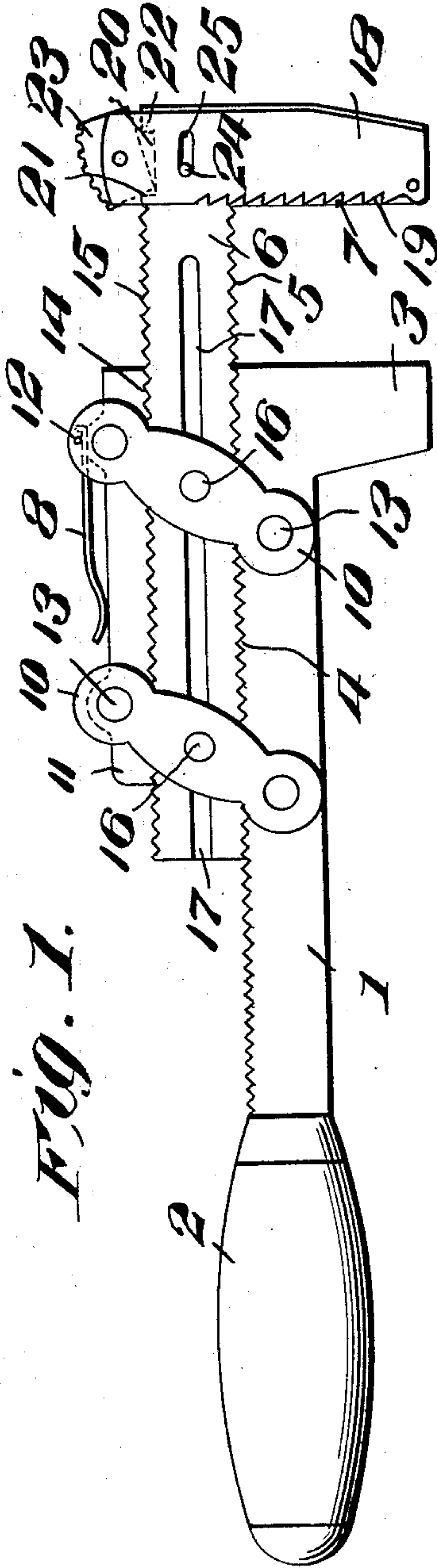


No. 860,300.

PATENTED JULY 16, 1907.

T. T. HURD.  
WRENCH.

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WITNESSES:

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# UNITED STATES PATENT OFFICE.

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## WRENCH.

No. 860,300.

Specification of Letters Patent.

Patented July 16, 1907.

Application filed March 8, 1907. Serial No. 361,286.

*To all whom it may concern:*

Be it known that I, THEODORE TRUMAN HURD, a citizen of the United States, residing at Seattle, in the county of King and State of Washington, have invented certain new and useful Improvements in Wrenches; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to new and useful improvements in wrenches and more particularly to that class known as combined nut and pipe wrenches and my object is to provide a wrench of this kind wherein the movable shank of the wrench has a nut engaging jaw and means connected thereto adapted to engage a pipe when it is desired to use the device as a pipe-wrench.

A further object is to provide means for locking the movable shank upon the stationary shank and holding the same in its adjusted position.

Other objects and advantages will be hereinafter made clearly apparent in the specification and pointed out in the claims.

In the drawings:—Figure 1 is a side elevation of my improved wrench showing the same in position to be used as a nut wrench, the parts of the wrench being in adjusted position ready for use; Fig. 2 is a view showing the upper jaw of the wrench when adapted to engage a pipe, one side of the pipe-engaging portion being removed; Fig. 3 is a side elevation of a portion of the wrench showing the parts of the adjusting device disengaged; and, Fig. 4 is a sectional view through the wrench as seen from line 4—4 Fig. 3.

Referring to the drawings by numerals of reference, 1 indicates the stationary shank of my improved wrench which is provided at one end with a handle 2 and at its opposite end with a jaw 3, said jaw being extended to one side and at right angles to the shank 1. The opposite edge of the stationary shank 1 is provided throughout its length with a plurality of teeth 4 which are adapted to engage a plurality of similarly constructed teeth 5 upon one edge of an auxiliary or movable shank 6, said movable shank being substantially the same length as the stationary shank and provided at its outer end with a head 7 which is adapted to cooperate with the jaw 3 as hereinafter more clearly set forth. The inner face of the head 7 is flat and adapted to engage the faces of nuts, or other objects having flattened sides.

A spring 8 is disposed in grooves 9 in the inner faces of the ends of the links 10 at one end of a keeper 11, as clearly shown in Fig. 4, the grooves being so directed as to hold said spring against the back of the keeper 11 at all times. A pin 12 is disposed through the ends of the links 10 carrying the spring 8, and serves to hold said links properly spaced and also to hold said spring 8 in place. The links 10 are arranged in pairs at opposite

ends of the keeper 11 and are pivotally secured to the keeper and shank 1 by means of bolts 13. The keeper 11 is provided with teeth 14 which engage similarly constructed teeth 15 on the edge of the movable shank 6. Pins 16 are disposed through the centers of the links 10 and into engagement with longitudinally disposed grooves 17 in the sides of the movable shank 6 so that when said links are disposed at right angles to the keeper 11, said keeper and stationary shank 1 will be moved to equal distances away from said shank 6 and their respective teeth disengaged from the teeth on the opposite edges of said shank 6.

A plate 18 having teeth 19 is disposed upon each side of the head 7 and these plates are pivoted at the outer end of said head at such a point that, when disposed in the position shown in Fig. 1, the teeth thereon will not encounter an object engaged by the smooth face of the head 7, but, when disposed in the position shown in Fig. 2, the teeth will project beyond the face of said head and engage the object to be turned, such as a pipe or other article having curved surfaces. The opposite end of the head 7 from that to which the plates 18 are pivoted has a recess 20 therein which is shouldered at its opposite ends as shown at 21 and 22. The plates 18 are longer than the head 7 and the projecting ends thereof have a block 23 pivoted therebetween.

When the wrench is being used for turning objects having flat surfaces and the plates 18 are out of engagement with the object, as shown in Fig. 1, one corner of the block 23 is in engagement with the shoulder 21 at one end of the recess 20. When it is desired to use the wrench for turning objects having curved surfaces, such as pipes, the block 23 is rocked till its inner face is parallel with shank 6 in which position its corners are free, when the plates are moved into the position shown in Fig. 2. The block is then rocked till its opposite corner engages the shoulder 22 in which position the teeth on said plates 18 extend beyond the flat face of the head 7 and are adapted to grip the curved surface against which they are brought. I employ a pin 24 which works in a slot 25 in each plate 18 to limit the movement of said plates in either direction.

When it is desired to change the adjustment of the parts to fit a larger or smaller object, the keeper 11 is moved away from the shank 6 until the links 10 are at right angles to said shank, as clearly shown in Fig. 3. The shank 6 can then be moved in either direction until proper adjustment is made when the keeper is moved toward the shank 6 until the teeth on the keeper and shanks again engage one another and the spring 8 will hold the parts in such position until it is desired to again change the adjustment.

It will now be seen that I have provided a wrench which may be cheaply constructed and one that can be adjusted to accommodate objects having square or flat-



tened surfaces as well as those having round surfaces. It will also be seen that I have provided means for quickly releasing the movable shank so that the same may be readily adjusted to fit the size of the object upon which the wrench is employed.

What I claim is:

1. A wrench of the class described comprising a stationary shank, a jaw at one end of said shank, teeth on one edge of said shank, a movable shank having teeth at each edge thereof, a head at one end of said movable shank cooperating with said jaw, plates pivotally secured to the sides of said head, teeth on said plates, means to hold the teeth on said plates into or out of engagement with an object placed between the head and jaw, and a toothed keeper pivotally secured to the stationary shank and adapted to engage the teeth on said movable shank to hold said movable and stationary shanks in adjusted position.
2. In a wrench of the class described the combination with a stationary shank, a handle at one end thereof, a jaw at the opposite end and teeth upon one edge of said stationary shank; of a movable shank, teeth upon two opposite sides of said shank, the teeth upon one side thereof engaging with the teeth upon the stationary shank, a head

at one end of said movable shank having a smooth face cooperating with the jaw, toothed plates upon opposite sides of said head, means to hold said plates into or out of engagement with the object being turned, and a toothed keeper adapted to normally hold the movable and stationary shanks in adjusted position.

3. A wrench of the class described comprising a stationary shank having a jaw at one end and teeth upon one edge thereof, a movable shank having teeth on two opposite edges thereof, longitudinal grooves in the opposite sides thereof, a head at one end of said shank, toothed plates upon said head adapted to be moved and held into or out of engagement with the object to be turned, a toothed keeper engaging said movable shank, links pivotally connected to the keeper and the stationary shank, pins in the centers of said links which enter the longitudinal grooves in the movable shank, and means to normally hold the keeper and stationary shank in adjusted position.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

THEODORE TRUMAN HURD.

Witnesses:

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W. R. BEY.